

**ABSTRACT**

An ultra-pure ozone water comprising an increased amount of an organic carbon capable of suppressing the reduction of the half-life period of ozone; and a method for producing the ultra-pure ozone water which comprises adding an organic solvent containing the above organic carbon to an ultra-pure ozone water containing a trace amount of the organic carbon. The above ultra-pure ozone water exhibits an increased half-life period of ozone, and thus, when used in cleaning a semiconductor substrate, allows the cleaning with an ozone water having an enhanced content of ozone, which results in exhibiting an enhanced cleaning capability and cleaning efficiency for an organic impurities, metallic impurities and the like adhered to the substrate, due to enhanced oxidizing action of ozone.